

2879

03500.015729.

PATENT APPLICATION

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

SHIN KITAMURA ET AL.

Application No.: 09/940,643

Filed: August 29, 2001

For: ELECTRON-EMITTING DEVICE,  
 ELECTRON SOURCE,  
 IMAGE-FORMING APPARATUS, AND  
 METHOD FOR PRODUCING  
 ELECTRON-EMITTING DEVICE AND  
 ELECTRON-EMITTING APPARATUS

Examiner: Not Yet Assigned

Group Art Unit: 2879

November 17, 2003

Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

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 TECHNOLOGY CENTER 2800

THIRD SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed Form PTO-1449. Copies of the listed documents are also enclosed, as is a copy of a June 27, 2003, Korean Communication citing non-English documents KR 1999-019614 and JP 10-199398, issued in a counterpart Korean application. A Japanese translation of the Korean communication and a Japanese translation of

document KR 1999-019614 also are enclosed. No English translations or English abstracts of these non-English documents are presently available.

For a concise explanation of relevance for various other non-English documents listed on the enclosed Form PTO-1449, the Examiner is directed to the corresponding English-language abstracts, English translations, and/or English counterparts, where available, as indicated in association with the relevant non-English documents on the Form PTO-1449.

For the concise statement of relevance of non-English document CN 1181607A, the Examiner also is respectfully referred to English-language counterparts EP 0 836 217 A1 and WO 99/58748.

The Examiner's attention is also directed to the following U.S. Application:

<u>APPLICATION NO.</u>	<u>FILING DATE</u>	<u>GROUP ART UNIT</u>
09/666,605 ✓	09/20/00	2811

A copy of the cited application is enclosed.

It is respectfully requested that the above information be considered by the Examiner and that a copy of the enclosed Form PTO-1449 be returned indicating that such information has been considered.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

  
\_\_\_\_\_  
Attorney for Applicants

Registration No. 42,476


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NY MAIN\_ #367750v1

FORM PTO 1449 (modified)  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)  Date Submitted to PTO: [DATE]			ATTY DOCKET NO. <b>03500.015729.</b>		APPLICATION NO. <b>09/940,643</b>	
			APPLICANT <b>Shin Kitamura et al.</b>			
			FILING DATE <b>August 29, 2001</b>		GROUP <b>2879</b>	
U.S. PATENT DOCUMENTS						
*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5,982,091	11/99	Konishi	313	495	
	6,400,091 B1	06/02	Deguchi et al.	315	169.1	
	6,472,814 B1	10/02	Yamanobe et al.	313	495	11/13/98
	5,872,422	02/99	Xu et al.	313	311	
	6,087,765	07/00	Coll et al.	313	309	
	2002/0009637A1	01/02	Murakami et al.	429	213	02/05/01
	5,847,495	12/98	Yamanobe et al.	313	310	
	5,066,883	11/91	Yoshioka et al.	313	309	
	6,455,021 B1	09/02	Saito	423	447.3	07/20/99
	6,471,936 B1	10/02	Chen et al.	423	658.2	03/02/00
	4,728,851	03/88	Lambe	313	309	
	5,773,921	06/30/98	Keesman et al.	313	309	
	5,973,444	10/26/99	Xu et al.	313	309	
	5,935,639	8/10/99	Sullivan et al.	427	78	
	4,956,578	9/11/90	Shimizu et al.	315	3	
	5,185,554	2/9/93	Nomura et al.	313	495	
	6,448,709	9/02	Chuang et al.	313	497	
	6,204,597	03/01	Xie et al.	313	310	
EXAMINER			DATE CONSIDERED			

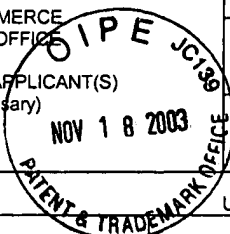
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Sheet 1 of 10

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	5,577,943	11/96	Vickers et al.	445	24	
	2002/136896	09/26/00	Takikawa et al.	428	408	
	5,192,240	03/09/93	Komatsu	445	24	
	5,214,346	05/25/93	Komatsu	313	309	
	5,382,867	01/17/95	Maruo et al.	313	309	
	5,612,587	03/18/97	Itoh et al.	313	309	
	6,313,572 B1	11/06/01	Yamada	313	310	
	6,135,839	10/24/00	Iwase et al.	445	24	
	2001/0006232	07/05/01	Choi et al.	257	10	
	4,816,289	03/89	Komatsu et al	423	447.3	
	5,443,859	08/95	Nagata	427	122	
	5,618,875	04/97	Baker et al.	524	495	
	5,690,997	11/97	Grow	427	249.1	
	6,129,602	10/00	Yamanobe	445	24	
	6,228,904	05/01	Yadav et al.	523	210	
	6,333,016	12/01	Resasco et al.	423	447.3	
	6,413,487	07/02	Resasco et al.	423	447.3	
	6,445,006	09/02	Brandes et al.	257	76	
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	5,981,305	11/99	Hattori	438	20	
	6,290,564	9/01	Talin et al.	445	50	
	5,458,784	10/95	Baker et al.	210	674	
	6,331,690 B1	12/01	Yudasaka et al.	219	121.6	
	5,965,267	10/99	Nolan et al.	428	408	
	6,309,612 B1	05/02	Kotaki et al.	347	85	
	5,872,541	02/99	Yoshioka et al.	345	121.1	
	5,543,684	08/96	Kumar et al.	313	495	
	5,551,903	9/96	Kumar et al.	445	24	
	4,900,483	2/90	Witzke et al.	313	309	
	5,500,200	3/96	Mandeville et al.	423	447.3	
	5,726,524	3/98	Debe	313	309	
	2002/0047562 A1	04/25/02	Kitamura et al.	315	169.3	
	5,770,918	06/98	Kawate et al.	313	495	
	5,185,554	02/93	Nomura et al.	313	495	
	2002/0146958 A1	10/02	Ono et al.	445	24	
	2003/0048056 A1	03/03	Kitamura et al.	313	311	
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FOREIGN PATENT DOCUMENTS						
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT
	11-194134	07/99	Japan	G01N	37/08	Abst., European Equivalent 0 913 508 A2 & Counterpart U.S. Patent 6,313,572
	11-139815	05/99	Japan	C01B	31/02	Abst.
	0 535 953 B1	01/96	EPO	H01J	1/30	English
	0 290 026 B1	02/93	EPO	H01J	3/02	English
	1 122 344 A2	08/01	EPO	D01F	9/127	English
	WO 01/93292 A1	12/01	PCT	H01J	1/304	English
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	2000/277003	10/06/00	Japan	H01J	9/02	Counterpart U.S. Patent 2002/136896
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	0 986 084 A2	03/15/00	EPO	H01J	1/30	English
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## FOREIGN PATENT DOCUMENTS

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	3-20941	01/29/91	JAPAN	H01J	31/12	Abst. & Counterpart U.S. Patent 5,185,554
	5-211029	08/20/93	JAPAN	H01J	1/30	No
	8-264109	10/11/96	JAPAN	H01J	1/30	Abst.
	9-82214	3/28/97	JAPAN	H01J	1/30	Abst. & European Equivalent 0 716 439
	1 113 478 A1	07/01	EPO	H01J	3/02	English
	0 913 508 A2	05/06/99	EPO	D01F	9/127	English
	09-188600	07/22/97	Japan	C30B	29/62	Abst.
	A1 443 865	08/28/91	EPO	H01J	21/10	English
	04-212236	03/08/92	Japan	H01J	1/30	Counterpart U.S. Patents 5,192,240, 5,214,346 & EP 0 443 865
	03-295131	12/26/91	Japan	H01J	1/30	Counterpart U.S. Patents 5,192,240, 5,214,346 & EP 0 443 865
	05-159696	06/25/93	Japan	H01J	1/30	Counterpart U.S. Patents 5,382,867 & EP 0 535 953
	05-198253	08/06/93	Japan	H01J	1/30	Counterpart U.S. Patents 5,382,867 & EP 0 535 953
	05-274997	10/22/93	Japan	H01J	1/30	Abst. & Counterpart U.S. Patent 5,612,587

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	11-232997	08/27/99	Japan	H01J	1/30	Counterpart U.S. Patent 6,313,572 & EP 0 936 650	
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	1 187 161 A2	03/13/02	EPO	H01J	3/02	English	
	1 102 299 A1	5/01	EPO	H01J	1/30	English	
	1 096 533 A1	5/01	EPO	H01J	9/02	English	
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	1 120 877 A1	8/01	EPO	H02G	5/06	English	
	1-309242	12/89	Japan	H01J	37/06	Abst.	

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U.S. DEPARTMENT OF COMMERCE  
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## FOREIGN PATENT DOCUMENTS

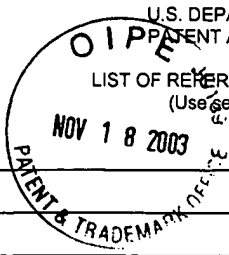
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	11-162334	6/99	JAPAN	H01J	9/02	Abst.
	2000-57934	2/00	JAPAN	H01J	1/304	Abst.
	2000-86216	3/00	JAPAN	C01B	31/02	Abst.
	2000-90809	3/00	JAPAN	H01J	1/304	Abst.
	2001-288625 A	10/01	Japan	D01F	9/127	Abst., Counterpart U.S. Patent 2002/00009637 & EP 1 122 344
	0 433 507 A1	6/91	EPO	D01F	9/127	English
	03-260119	11/91	Japan	D01F	9/127	Abst. & Counterpart U.S. Patent 4,900,483
	2001-52598	2/01	Japan	H01J	1/316	Abst.
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	2000-208028	7/00	Japan	H01J	1/304	Abst.
	0 936 650 A1	8/99	EPO	H01J	3/02	English
	08-298068	11/96	Japan	H01J	1/30	Abst.
	2001-162600	06/19/01	Japan	B82B	1/00	Abst.
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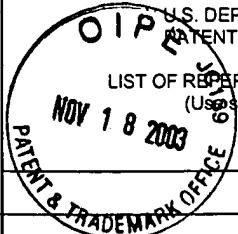
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OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)			
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	T. Kyotani et al., "Preparation of Ultrafine Carbon Tubes in Nanochannels of an Anodic Aluminum Oxide Film," Chem. Mater., Vol. 8, 2109-2113 (1996). ✓		
	A. Thess et al., "Crystalline Ropes of Metallic Carbon Nanotubes," Science, Vol. 273 483-487 (1996). ✓		
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	A. C. Dillon et al., "Storage of Hydrogen in Single-Walled Carbon Nanotubes," Nature, Vol. 386, 377-379 (1997).		
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		<b>C.A. Mead, "Operation of Tunnel-Emission Devices", <i>Journal of Applied Physics</i>, Vol. 32, No. 4, (1961), pp. 646-652</b>	
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		<b>Hisashi Araki et al., "Electroforming and Electron Emission of Carbon Thin Films, <i>Journal of the Vacuum Society of Japan</i>, 1983 (with English Abstract on p. 22)</b>	
		<b>Rodriguez et al., "Catalytic Engineering of Carbon Nanostructures," <i>Langmuir</i> 11, 3862-3866 (1995).</b>	
		<b>W. Zhu Et Al., <i>Electron Field Emission From Nanostructured Diamond and Carbon Nanotubes</i>, <i>Solid State Electronics</i>, Vol. 45, 2001, pp. 921-928</b>	
		<b>J.M. Bonard Et Al., <i>Field Emission From Carbon Nanotubes: The First Five Years</i>, <i>Solid Stat Electronics</i>, Vol. 45, 2001, pp. 893-914</b>	
		<b>A.M. Rao et al., "In Situ-grown Carbon Nanotube Array of with Excellent Field Emission Characteristics," <i>Applied Physics Letter</i>, Vol. 76, No. 25, pp. 3813-3815 (2000).</b>	
		<b>Cheol Jin Lee et al., "Carbon Nanofibers Grown on Sodalime Glass at 500 °C Using Thermal Chemical Vapor Deposition," <i>Chemical Physics Letters</i> 340, pp. 413-418 (2001).</b>	
		<b>Sashiro Uemura et al., "Carbon Nanotube FED with Graphite-Nano-Fiber Emitters," <i>ISSN 1083-1312</i>, pp. 398-401.</b>	
		<b>Q. H. Wang et al., "A Nanotube-Based Field-Emission Flat Panel Display," <i>Applied Physics Letters</i>, Vol. 72, No. 22, June 1998, pp. 2912-2913</b>	
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